AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-11 (cancelled).

12. (Currently Amended) A method for regulating current through an electromagnetic actuator, the electromagnetic actuator, a first switch and a current-measuring circuit forming a series circuit, a free-wheeling diode being parallel-connected to the electromagnetic actuator, the method comprising:

closing and opening the first switch by an automatic control and a pulse generator using a pulse width modulation signal (PWM) in such a way that current flowing through the electromagnetic actuator and measured by the current-measuring circuit is regulated to a setpoint value;

altering a time duration of one on and off switching cycle of the PWM signal; and

superimposing a dither function in a form of a low-frequency oscillation on the PWM signal, wherein for the dither function, a dither value is added to or subtracted from each pulse of the PWM signal, wherein a time duration during which the dither value is added to the pulses of the PWM signal is equal to a time duration during which the dither value is subtracted from the pulses, and wherein the time duration during which the dither value is added to the pulses and the time duration during which the dither value is subtracted from the pulses yield a total time duration which is a multiple of the time duration of one on and off switching cycle of the PWM signal.

Claims 13-15. (Canceled).

16. (Currently Amended) ~~The method as recited in claim 12,~~ A method for regulating current through an electromagnetic actuator, the electromagnetic actuator, a first switch and a current-measuring circuit forming a series circuit, a free-wheeling diode being parallel-connected to the electromagnetic actuator, the method comprising:

closing and opening the first switch by an automatic control and a pulse generator using a pulse width modulation signal (PWM) in such a way that current flowing through the

electromagnetic actuator and measured by the current-measuring circuit is regulated to a setpoint value;

altering a time duration of one on and off switching cycle of the PWM signal; and

superimposing a dither function in a form of a low-frequency oscillation on the PWM signal, wherein the current flowing through the electromagnetic actuator and measured by the current-measuring circuit is freed from the dither function by a corrector.

17. (Previously Presented) The method as recited in claims 16, further comprising:

measuring two current values in a time interval of the time duration during which the dither value is added to or subtracted from the pulses of the PWM signal; and

forming an average value of the two measured current values.

18. (Previously Presented) The method as recited in claim 12, further comprising:

ascertaining, by a diagnostic, the current through the actuator from measured moments the first switch is switched on and off; and

comparing, by the diagnostic, the ascertained current to at least one of the current measured by the current-measuring circuit, and the setpoint value.

19. (Currently Amended) A memory device storing a computer program, the computer program when executed on a computer, causing the computer to perform the following:

closing and opening [[the]] a first switch by an automatic control and a pulse generator using a pulse width modulation signal (PWM) in such a way that current flowing through [[the]] an actuator and measured by [[the]] a current-measuring circuit is regulated to a setpoint value;

altering a time duration of one on and off switching cycle of the PWM signal; and

superimposing a dither function in a form of a low-frequency oscillation on the PWM signal, wherein for the dither function, a dither value is added to or subtracted from each pulse of the PWM signal, wherein a time duration during which the dither value is added to the pulses of the PWM signal is equal to a time duration during which the dither value is subtracted from the pulses, and wherein the time duration during which the dither value is added to the pulses and the time duration during which the dither value is subtracted from the pulses yield a total time duration which is a multiple of the time duration of one on and off switching cycle of the PWM signal.

20. (Previously Presented) The memory device as recited in claim 19, wherein the memory device is a flash memory.

21. (Currently Amended) A control unit for regulating current through an electromagnetic actuator, the electromagnetic actuator, a first switch and a current-measuring circuit forming a series circuit, a free-wheeling diode being parallel-connected to the electromagnetic actuator, and the control unit, comprising:

an automatic control; and

a pulse generator by which the first switch ~~(11)~~ is closed and opened using a pulse width modulation ("PWM") signal in such a way that the current flowing through the electromagnetic actuator and measured by the current-measuring circuit is regulated to a setpoint value;

wherein the control unit is configured to alter a time duration of one on and off switching cycle of the PWM signal and superimpose a dither function in a form of a low-frequency oscillation on the PWM signal, wherein for the dither function, a dither value is added to or subtracted from each pulse of the PWM signal, wherein a time duration during which the dither value is added to the pulses of the PWM signal is equal to a time duration during which the dither value is subtracted from the pulses, and wherein the time duration during which the dither value is added to the pulses and the time duration during which the dither value is subtracted from the pulses yield a total time duration which is a multiple of the time duration of one on and off switching cycle of the PWM signal.

22. (Previously Presented) The control unit as recited in claim 21, wherein the control unit is configured to provide transmission control in a motor vehicle.